GSM Fixed Wireless Terminal

USER MANUAL

Table of Contents:

Introduction……3

Safety Information……..4

Product Composition……..4

Features……5

User Instruction……7

Technical Specifications……..9

Troubleshooting……..11

Important Notices……..12

Introduction:

GSM Fixed Wireless Terminal, when linked with a normal DTMF (Dual-tone Multi-frequency) or a Dial Pulse telephone set, allows you to connect and communicate flexibly within GSM cellular network coverage. Compared with normal cellular phones, GSM Fixed Wireless Terminal is much more capable of signal receiving and transmitting; thus effectively utilizing the residual coverage capacity of the present GSM network, expanding network coverage, improving the network usage and ultimately bringing new revenues to GSM cellular network operators. Furthermore, GSM Fixed Wireless Terminal is the very plug and play equipment for the subscribers to have access to GSM network services in GSM Wireless Local Loop system.

Main applications:

1) PSTN Line replacement for homes and offices
2) Supervised payphone services (with metering equipment)
3) Connection with EPABX for least cost routing
4) Connection with computer for circuit data, packet data/GPRS, data faxing and SMS services
5) Connection with normal G3 fax machines for cellular fax services
6) Connection with VOIP gateway for VOIP call termination

Thank you for your use of this GSM Fixed Wireless Terminal. Please kindly follow this user manual to unpack, set up and operate your new GSM Fixed Wireless Terminal product.

Safety Information:

Aircraft:
Do not use this GSM Fixed Wireless Terminal in the air. Use it on the ground only with crew permission.
Blasting Area:
Construction crews often use remote control RF devices to set off explosives. To avoid interfering with blasting operations, turn off GSM Fixed Wireless Terminal when in a blasting area or in areas posted ‘ Turn off two-way radio’.
Potentially Explosive Areas;
Do not install GSM Fixed Wireless Terminal in fueling areas, on fuel or chemical transfer or storage facilities or in areas where there is chemicals or particles, such as grain, dust or metal powders.
Hospitals:
Do not install GSM Fixed Wireless Terminal in hospitals as the terminals can interfere with electronic medical devices.
Children:
Do not allow children to play with GSM Fixed Wireless Terminal as the equipment or the packing material may hurt your children or your children may damage the equipment.

Product Composition:

With standard and open design, engineers developed this GSM Fixed Wireless Terminal: professional industrial-level module ensures the swift and reliable operation; multi-level shielding of the circuit board reduces GSM-network-inhered negative effect on the circuit; high-gain antenna makes it more sensitive in signal receiving and more capable in delivering clear digital voice.

GSM Fixed Wireless Terminal:

GSM Fixed Wireless Terminal serves as a mobile converter. With GSM Fixed Wireless Terminal, a normal telephone set can access GSM network.

Antenna:

To receive and transmit radio signals.

Power Supply Adaptor:

AC/DC adaptor, with charging circuit inside managing the battery charging process

Features:

Outgoing Calls:

When GSM Fixed Wireless Terminal has been arranged for working, pick up the handset of a normal DTMF/DIAL PULSE telephone set linked to the terminal and dial your number after hearing the dialing tone. Several seconds later you may hear ringing tone from the called phone or busy tone if the called phone is busy. When in the former situation and when your call is answered, the communication begins.

Incoming Calls:

When someone is calling your number, the normal DTMF/DIAL PULSE telephone set linked to the terminal rings. To answer, pick up the handset; to finish, hang up the handset.

Caller ID:

If your DTMF telephone set has LCD display, you may see the number and know who is calling.

Connection with PABX for least cost routing:

In some countries, the inter-connection cost between GSM network and PSTN network is much dearer than the connection within GSM network or PSTN network. GSM Fixed Wireless Terminal can be connected with PABX on the trunk side. In this case, PABX has an extra GSM line and calls of PSTN-GSM may be routed as GSM-GSM.

Connection with metering/billing equipment for GSM payphone services:

GSM Fixed Wireless Terminal, when linked with standard payphone metering/billing equipment, may be used for manned GSM payphone services.

Connection with VOIP gateway for VOIP termination:

GSM Fixed Wireless Terminal, when linked with standard VOIP gateway, can terminate calls to GSM network.

PSTN line replacement:

GSM Fixed Wireless Terminal is the prime choice for PSTN line replacement in homes or offices.

Circuit Data:

Computers, when connected with GSM Fixed Wireless Terminal (by RS232 data interface), can access data services of GSM network via 9600 bps circuit data. To activate the circuit data mode, GSM Fixed Wireless Terminal has first to be programmed by the phone keys of the telephone set connected with it. Please refer to instructions on circuit data for more details. The SIM card you are using in the GSM Fixed Wireless Terminal for circuit data should be activated with DATA services.

Packet Data/GPRS connection:

Computers, when linked with GSM Fixed Wireless Terminal (by RS 232 data interface), can access data services of GSM network via 115200 bps packet data. To enable the GSM Fixed Wireless Terminal to enter GPRS mode, pick up the telephone handset connected with the GSM Fixed Wireless Terminal; input **41#; hang up after hearing the confirmation tone; Please refer to instructions of GPRS connection for more details. The SIM card you are using in the GSM Fixed Wireless Terminal for packet data or GPRS connection should be activated with DATA and GPRS services.

Data Fax Supported:

GSM Fixed Wireless Terminal serves as a modem for GII or GIII compliant data fax. When a computer with GII or GIII fax software is connected through RS232 Data Interface with GSM Fixed Wireless Terminal, the fax connection can be established if the corresponding fax machine is GII or GIII (a kind of standard for fax) compliant. To enter data fax mode, pick up the telephone handset connected with the GSM Fixed Wireless Terminal; input **41#; hang up after hearing the confirmation tone. The SIM card you are using in the GSM Fixed Wireless Terminal for data faxing should be activated with data services. You have to refer to specific fax software for use of data faxing.

G3 Analogue FAX (optional; available to a specific model only):

Some GSM Fixed Wireless Terminal model, when linked with a normal G3 analogue fax machine, can send or receive analogue faxes via GSM network. To facilitate G3 analogue fax, there should be Inter-working function units or modem pool in the GSM network. The SIM card you are using in the GSM Fixed Wireless Terminal for G3 analogue fax should be activated with data and fax services. Except the usual number for voice, an extra number for FAX will be assigned to the SIM card. When someone wants to send a fax to a fax machine connected with GSM Fixed Wireless Terminal, he or she has to dial the FAX number of the SIM card.

SMS:

GSM Fixed Wireless Terminal, when linked with computers, installed with specific SMS software, can receive and send English Short messages. Please refer to SMS software for more details.

SIM Card/Terminal/network Locking:

You may use FWT manager to activate SIM card locking, terminal locking or network locking. Please refer to guide of FWT manager for more details.

Call Barring:

You may set up to 10 groups of numbers as barred calls by FWT manager.

Speed Dial:

Programming of Speed Dial:

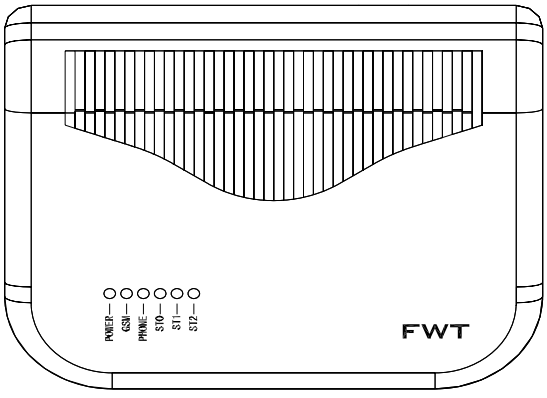
Get the Fixed Wireless Terminal ready for working (connected with a normal telephone set);
Pick up the telephone handset;
Press **50*speed dial code*telephone number#;
Programming completed after confirmation tone.
Speed dial code: 0, 1, 2…9
You can set total 10 telephone numbers in the speed dial list.

Cancellation of speed-dial programming:
Get the WALLSET ready for working (connected with a normal telephone set);
Pick up the telephone handset;
Press **51*speed dial code#;
Programming completed after confirmation tone.

Using of speed dial:
Get the WALLSET ready for working (connected with a normal telephone set);
Pick up the telephone handset;
Dial the speed dial code, that is, 0,1… or 9, a whole telephone number represented by that speed dial code gets dialed out.

Other telephone key programming:
Please refer to functions by telephone key programming for more details.

Working Status Indicator:
GSM WALLSET has six indicator lights; designations for all lights as followings:



PWR: Indicator light for power; with power supply, this indicator light is steadily on and blinks while the Fixed Wireless Terminal is in normal working conditions.

GSM: Indicator light for GSM network registration. If this light is on, the Fixed Wireless

Terminal has successfully been registered with GSM network; if this light is off, the Fixed Wireless Terminal fails to get registered.
Phone; Indicator light for “In Use”, When the telephone set is picked up, this light is on; when the telephone set is hung up, this light is off; when there is an incoming phone, this light blinks every 100ms; when the Fixed Wireless Terminal is used for Internet connection, via GPRS this light blinks every 1 second.
GSM signal strength indicator (ST0-ST2): Indicator light for GSM signal strength; when the PWR indicator light is blinking, these indicator lights stand for signal strength; ST0, ST1, ST2 are all on, the strongest signal; ST0, ST1 are on, normal signal strength; only ST0 on, weak signal strength. When PWR indicator light is steadily on, ST0, ST1, ST2 stand for error. Refer to the error code in troubleshooting part.

Models available:
VOICE ONLY GSM Fixed Wireless Terminal for PABX connection;
VOICE ONLY GSM Fixed Wireless Terminal for manned payphone services;
VOICE ONLY GSM Fixed Wireless Terminal for home or office use;
VOICE +GPRS GSM Fixed Wireless Terminal
VOICE+G3 analogue fax +GPRS GSM Fixed Wireless Terminal for GSM fax services

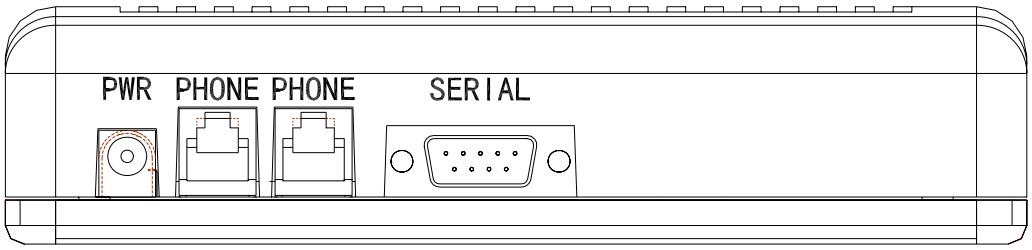
Modules available:
For VOICE ONLY or VOICE+GPRS models, BENQ and SIMCOM industrial-level GSM modules are available, in GSM 900/1800 MHz or GSM 850/1900MHz; for VOICE +G3 analogue fax models, SIMCOM and WAVECOM industrial-level GSM modules are available, also in GSM 900/1800 MHz or GSM 850/1900 MHz.

Connectivity options:
GSM Fixed Wireless Terminal may be connected with normal telephone set for voice, computers for circuit data/packet data/SMS services and fax machines for G3 analogue fax.

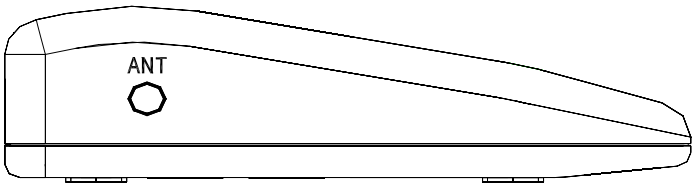
User Instructions:

Unpacking and checking list:
Each pack includes:
One set of GSM Fixed Wireless Terminal;
One piece of antenna;
One piece of power supply adaptor;
Four pieces of rechargeable battery
One copy of user manual;
One telephone line for the connection between GSM Fixed Wireless Terminal and the telephone set;
If you find any of the aforesaid unavailable or damaged, contact the distributor or the operator immediately.

GSM Fixed Wireless Terminal: OUTER APPEARNCE:

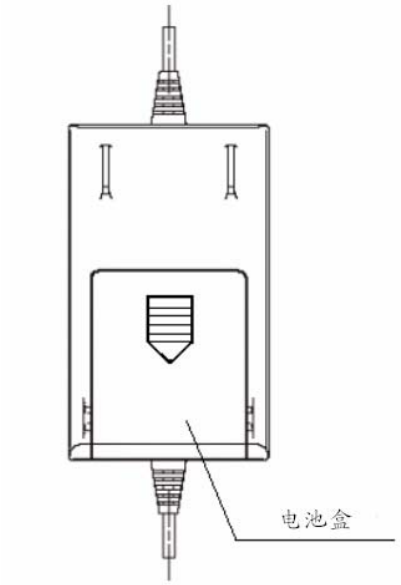


PWR: power supply receptacle
Phone: telephone interface
Serial: serial port; for the connection with computer



ANT: external antenna

AC/DC adaptor:



Installation Procedures:
PLEASE FOLLOW STEP BY STEP.

SIM Card Installation:

GSM network operators will provide one SIM card for each terminal. Remove the SIM card compartment cover, open the card holder, gently insert the SIM card in the slot of the card holder and reattach the compartment cover after making sure the card is in full touch with the terminal.

Antenna Installation:

Connect the antenna to the antenna interface. Make sure the antenna placed above the terminal and in a position as far away from the terminal as possible.

Phone Connection:

Use the telephone line in the package to connect the terminal and the telephone set through RJ 11 interface.

Power Supply Adaptor:

Plug the power supply adaptor coaxial jack to adaptor receptacle on the terminal.

Plug the power supply adaptor 220V jack to main power.

Indicator Light Checking:

The power indicator light should blink; GSM signal strength indicator lights may glint first and will stabilize 20 to 30 seconds later indicating the present signal strength. To achieve best voice quality, please use mobile tray antenna.

Completion of Installation:

Till now the installation process is completed, you may try dialing.

Notes for Installation:

Do not insert SIM card when the terminal is powered on.

Spin the antenna tight and ensure the full contact with the terminal.

Dial when the indicator light for POWER blinks only.

Press the hash key # for faster completion of call forwarding.

Please ensure the working environment is dry and ventilated. Do not use the terminal in high humidity and high temperature conditions as those unfavorable surroundings may downgrade the performance and even damage the equipment.

When noises due to electronic-magnetic interference are arising during talking, move the antenna position to improve the electronic-magnetic environment for signal receiving. Antennas are to be placed right above the terminal or as far away as possible.

Please use storage battery if the power level is not stable or the power often fails. Please refer to the storage battery user manual presented by battery supplier.

Dialing Regulations:

If your SIM card is entitled to International Subscriber Dialing, you may dial an international number.

If your SIM card is entitled to National Subscriber Dialing, you may dial a national number.

You may direct dial a local landline network number.

You may direct dial a local GSM network number.

You may dial any available special service number or SOS number.

Technical Specifications:

General:

GSM Frequency: 900/1800 MHz
GSM 900
Transmission: 880-915 MHz
Reception: 925-960 MHz
GSM 1800
Transmission: 1710-1785 MHz
Reception: 1805-1880 MHz
850/1900 MHz
GSM 850
Transmission: 824-849 MHz
Reception: 869-894 MHz
GSM 1900 MHz
Transmission: 1850-1910 MHz
Reception: 1930-1990 MHz
Carrier Spacing: >200 KHz
Transmitting power: ≤ 30/33dBm+2dB
Maximum Frequency Deviation: ±0.1 ppm
Receiving Sensitivity: <-102 dBm
Modulation type: 0.3 GMSk
SIM Card: Mini-SIM Card
Shell Material: Flame-retardant ABS
Dimensions: 182.56*135*42.29 MM
Weight: 1Kgs
Working Temperature Range: 0℃～+40℃

Humidity Range: ≤95% RH

Antenna:

Frequency Bandwidth: 890-960MHZ 70MHZ; 1710-1880MHZ 170MHZ
Voltage Standing Wave Ratio: ≤1.5
Gain: 5 dB
Input Resistance: 50Ω
Polarization Mode: Vertical Polarization

RJ11 Telephone Interface:

Dialing Tone Frequency: 450 Hz
Ring Current Frequency: 25 Hz

Ring Current Voltage: 70v ± 20
Feeding Voltage: 26V

Power Supply:

Power Supply: AC220V ± 20% 50hz ± 1%
DC Voltage: 6.5V/DC
Current Rating: 700MA
Standby Current: 50MA
Working current：350MA
Battery back-up: standby time: 24 hours
talk time: 4 hours

Troubleshooting:

Please refer to the following table for possible trouble if the indicator light for PWR is steadily on or you cannot dial any number after the power supply is on.

Number	Binary Code	ST0 ST1 ST2	Designation
0	000	○○○	No signal
1	001	○○●	Network registration failed
2	010	○●○	PIN needed
3	011	○●●	PUK needed
4	100	●○○	No valid SIM card
5	101	●○●	Operator locking failed
6	110	●●○	Terminal locking failed

If you may find and deal with the error according to the above table, do it by yourself. You may restart the terminal for checking of any improvement. If you cannot deal with the error, please turn to the distributor or the operator.

Troubleshooting telephone set:
The telephone set linked to the terminal should be DTMF (dual-tone multi-frequency) phone. If both T (for DTMF) Mode and P (for DC Pulse) Mode are available, make sure your phone set is always switched to T Mode when connected with the terminal. After connecting the phone to the terminal, pick up the handset and see if the PHONE indicator light glows or not. If it glows, the connection is all right. If it blinks, check the connection. After checking if the PHONE indicator light still blinks, there is error in the telephone set.

Use a new phone set and see if it works. If still no working, turn to the distributor or the operator.

Troubleshooting power supply:

The POWER indicator light shows the working conditions of the power supply. If POWER light is off, the AC power is not available or the voltage is lower than the working level.

Troubleshooting antenna:

If the voice is not clear or intermittent and no error found in the telephone set, turn to the antenna for possible cause.

See if POWER indicator light is blinking.

If no GSM signal strength indicator lights are on, check the antenna:

See if the antenna is damaged or not;

See if the connection between the antenna and the terminal is tight or not;

See if the antenna is placed in a vertically upright position and if the antenna is far away from any barrier.

※The antenna should be as far away from the telephone line and power supply line. Do not wind the antenna line with the telephone line as this may cause GSM electronic-magnetic wave interference in power supply and telephone line.

Important Notices:

Terms and conditions for use of GSM Fixed Wireless Terminal (hereinafter called Product):

These terms and conditions are a legal contract between you and the supplier for the title to and the use of the Product. If you retain and use the product after receipt of it, you agree to the terms and conditions including warranty disclaimers, limitations of liability and indemnification provisions below. If you do not agree to these terms and conditions, do not use the Product and immediately return it for a complete refund from the distributor. You agree to accept the sole responsibility for any misuse of the Product by you and any negligent or illegal act or omission of your agents, contractors, servants, employees or other users of the Product as long as the Product was obtained from you.

Indemnification of the supplier:

You shall indemnify, defend and hold harmless the supplier for any cost, including reasonable attorney's fees, arising out of your, your clients or any other third-parties' use or operation of the Product: (i) for misusing or in a manner not contemplated by you and the supplier or specifically unauthorized in this manual or inconsistent with the provisions of this manual; (ii) in an illegal manner or against public policy, harmful or dangerous to third parties; (iii) combination of the product with material, modification of the product or use of the product in an environment not provided or permitted by the supplier in writing. The parties shall give each other prompt notice of any such cost or claims and cooperate, each with the other,

to effectuate this indemnification and to hold the supplier harmless.

WARRANTY:

Supplier warrants to a distributor Buyer, or to a customer only if the customer is a Buyer directly from Supplier, that the Product shall comply with the applicable Specifications and shall be free from defects in material and workmanship under normal use and service for a period of twelve (12) months from the date of shipment from SUPPLIER. Supplier shall at its option either repair, replace or refund the purchase price of the Product during the warranty period, provided that it is returned freight prepaid by Buyer receiving an RMA number from Supplier. Repair or replacement, at Supplier's option, may include the replacement of parts, boards or Products with functionally equivalent reconditioned items. Repaired or replaced items are warranted for the balance of the original warranty period. All replaced items shall become the property of Supplier. Such action on the part of Supplier shall be the full extent of Supplier's liability hereunder and buyers exclusive remedy. Buyer shall be responsible for all costs and expenses incurred by Buyer including but without limitation to any handling, labor or transportation charges. Other than aforesaid, this express warranty is extended by supplier to buyer only and not to buyer's customers or users of buyer's products. This warranty does not cover the following: (a) subsequent upgrades and enhancements to the Product; (b) defects, non-compliance or damage resulting from use of the Product in other than its normal and customary manner or environment; (c) defects, non-compliance or damage from improper testing, operation, maintenance, installation, adjustment, or any alteration or modification of any kind; (d) defects, non-compliance or damage from misuse, lightening, accident or neglect; (e) product disassembled or repaired in such a manner as to adversely affect performance or prevent adequate inspection and testing to verify any warranty claim; (f) product with the serial number/IMEI code removed or made illegible; (g) defects, noncompliance or damage due to spills of food or liquid; (h) all plastic surfaces and all other externally exposed parts that are scratched or damaged due to customer normal use; (i) repair, programming or servicing by someone other than that from supplier or authorized by supplier.